



**ENGINEERING OPERATIONS COMMITTEE
MEETING MINUTES
MARCH 10, 2003 - 9:00 A.M.
EXECUTIVE CONFERENCE ROOM**

Present: L. E. Tibbits J. Friend T. Anderson
B. J. O'Brien C. Roberts M. VanPortFleet
J. D. Culp T. Davies J. W. Reincke
T. Fudaly

Absent: S. Bower

Guests: K. Kennedy C. Libiran D. Calabrese (FHWA)
T. Frake D. Weber R. Holcom
F. Spica

OLD BUSINESS

1. **Approval of the Minutes of the February 6, 2003, Meeting - L. E. Tibbits**

Minutes of the February 6, 2003, meeting were approved.

NEW BUSINESS

1. **Pavement Selections - K. Kennedy**

A. **US-23/M-59 Interchange Reconstruction, CS 47014/47082, JN 34519**

NOTE: *The following project was approved, however, due to funding changes the project scope will be changed requiring re-evaluation of the Life Cycle Cost Analysis. The project will return for EOC action at a later date.*

The reconstruction alternates considered were a hot mix asphalt (HMA) pavement (Alternate 1 - Equivalent Uniform Annual Cost [EUAC] \$81,488/ mile) and a jointed plain concrete pavement using a P1 modified concrete mix (Alternate 2 - EUAC \$85,497/mile).

A life cycle cost analysis was performed and Alternate 1 was approved based on having the lowest EUAC. The pavement design and cost analysis are as follows:

Alternate 1A (61.1 Percent of the Project) Reconstruct: HMA (US-23)

2"	Gap Graded Superpave, Top Course (Mainline and Inside Shoulder)
2.5"	HMA 4E30, Leveling Course (Mainline and Inside Shoulder)
3"	HMA 3E30, Base Course (Mainline and Inside Shoulder)
3.55"	HMA 3E30, Base Course (Mainline)
5.5"	HMA 4C and 3C (Outside Shoulder)
6"	Aggregate Base (9.55" Inside Shoulder, 11.55" Outside Shoulder)
6"	Proposed Subbase
12"	Existing Sand Subbase
6"	Subbase Underdrains
35.05"	Total Thickness

Alternate 1B (22.8 Percent of the Project) Reconstruct: HMA (M-59, 7 Lanes)

2"	HMA 4E10, Top Course
3"	HMA 3E10, Leveling Course
3.68"	HMA 3E10, Base Course
6"	Aggregate Base
18"	Proposed Subbase
6"	Subbase Underdrains
32.68"	Total Thickness

Alternate 1C (16.1 Percent of the Project) Reconstruct: HMA (M-59, 5 Lanes)

2"	HMA 4E10, Top Course
3"	HMA 3E10, Leveling Course
3.68"	HMA 3E10, Base Course
6"	Aggregate Base
18"	Proposed Subbase
6"	Subbase Underdrains
32.68"	Total Thickness

US-23 Present Value Initial Construction Costs	\$1,147,785/mile
US-23 Present Value Initial User Costs	\$169,842/mile
US-23 Present Value Maintenance Costs	\$139,846/mile
US-23 Equivalent Uniform Annual Costs	\$90,199/mile
M-59 Present Value Initial Construction Costs	\$977,010/mile
M-59 Present Value Initial User Costs	\$54,820/mile
M-59 Present Value Maintenance Costs	\$155,046/mile
M-59 Equivalent Uniform Annual Costs	\$67,806/mile

B. US-31 Rehabilitation, CS 11056, JN 50757

The rehabilitation alternates considered were a rubblize and hot mix asphalt overlay (Alternate 1 - EUAC \$30,653/directional mile) and an unbonded jointed plain concrete overlay (Alternate 2 - EUAC \$26,678/directional mile). A life cycle cost analysis was performed and Alternate 2 was approved based on having the lowest EUAC. The pavement design and cost analysis are as follows:

6.5"	Jointed Plain Concrete Pavement (14' joint spacing)
1"	Bond Breaker (HMA 13A)
9"	Repaired Concrete Pavement
14"	Existing Base/Subbase
		Underdrain System
30.5"	Total Thickness

Present Value Initial Construction	\$359,065/directional mile
Present Value Initial User Costs	\$10,187/directional mile
Present Value Maintenance Costs	\$34,174/directional mile
Equivalent Uniform Annual Cost	\$26,678/directional mile

2. **AASHTO *A Policy on the Geometric Design of Highways and Streets*, 2001 Edition (2001 Green Book) - C. Libiran**

FHWA officially adopted the 2001 Green Book just over one year ago and requires states to adopt it as the minimum design standard for projects on the National Highway System. An MDOT review team was formed to compare the new policy with our freeway standards and guides, which were found to be within acceptable ranges of compliance. The non-freeway standards have not been compared and will require more time.

ACTION: Approval to adopt the 2001 Green Book is delayed until the non-freeway standards can be reviewed. The department will request a 60 day time extension from FHWA to complete the entire review. The request for final approval will return to EOC at a later date.

3. **Bridge Underclearance Requirements on Non-NHS Routes - T. Frake**

There are 329 trunkline bridges over non-NHS arterial roadways. At present, a minimum vertical underclearance of 16 ft 0 in. is required. We have the authority to set our own underclearance requirements on non-NHS routes. It is proposed that our standard minimum non-NHS underclearance requirement for 4R construction be set at 14 ft 6 in., and that a 14 ft 0 in. minimum underclearance be established for 3R construction on arterials, collectors, local roads, and special routes.

ACTION: The new underclearance requirements for non-NHS routes are approved and will be incorporated in the Bridge Design Manual, Section 7.01.08.

4. **Special Designation Routes in Highly Urbanized Areas - T. Frake**

The department is proposing to designate 16 ft 0 in. underclearance routes through all 16 highly urbanized areas in the state. Doing so would make all other trunkline routes in the urbanized area a “Special Route”, which would require a minimum underclearance of 14 ft 6 in. rather than the existing requirement of 16 ft 0 in.

FHWA is willing to consider this proposal, which expands the number of exempted routes in highly urbanized areas.

ACTION: The proposal will be presented to FHWA for review, comment, and agreement. The final proposal will be returned to the region engineers for review, if necessary.

5. **Bureau of Highway Instructional Memorandum 2003-03, *MDOT Guidelines for Administering Warranties on Road and Bridge Construction Contracts* - B. O’Brien**

The guidelines and manual were developed by the Statewide Warranty Administration Team to provide consistency in the inspection, monitoring, and documentation of road and bridge projects under the department’s warranty program.

ACTION: The guidelines are approved. The IM was signed and the manual will be made available for distribution.

6. **Noise Abatement - Commission Policy 10136, Dated July 19, 2002 - B. O’Brien**

The State Transportation Commission’s Policy on Noise Abatement (10136) went into effect on July 19, 2002, superseding the 1996 policy. The new policy requires the department to promulgate the rules and operating procedures for implementing the policy and for meeting federal guidelines for noise abatement. As a result, the “Procedures and Rules for Implementation” has been written and includes the application process for requesting noise evaluation and abatement through a local government.

FHWA and the regions need to review the final draft of the entire application packet that will be available for public use when seeking noise relief.

ACTION: The Procedures and Rules for Implementation of Commission Policy 10136 is approved, subject to comments from FHWA and region review.

7. Tire/Pavement Noise Study - J. Reincke, R. Holcom, and F. Spica

The department contracted with the National Center for Asphalt Technology (NCAT) to evaluate the acoustical characteristics of several pavement surfaces using the close proximity method as defined by the International Standards Organization. The data generated indicate a range of average sound levels from 96.9 dBA to 99.6 dBA, a non-significant difference of only 2.7 dBA. A difference of 3 dBA is barely perceptible to the human ear. The data also showed that sound levels for like-pavements were inconsistent.

The draft final study report leaves questions unanswered and the method of analysis showed that sound level variations were insignificant and inconsistent. We find no evidence that one pavement surface type is quieter than another.

ACTION: Before the department accepts this report, we will prepare a letter to NCAT expressing our concerns and providing our analysis of the study's data. We will ask them to respond to our evaluation.

(Signed Copy on File at C&T)

Jon W. Reincke, Secretary
Engineering Operations Committee

JWR:kar

cc:	EOC Members	C. Libiran	D. A. Juntunen	J. Becsey (MAPA)
	Region Engineers	M. Frierson	J. Steele (FHWA)	D. Hollingsworth (MCA)
	G. J. Jeff	K. Rothwell	J. Murner (MRPA)	M. Newman (MAA)
	R. J. Lippert, Jr.	T. Phillips	M. Nystrom (AUC)	
	J. Ruszkowski	K. Peters	R. J. Risser, Jr. (MCPA)	
	R. D. Till	T. L. Nelson	A. C. Milo (MRBA)	